

parking held in reserve. The reserve space may be used by the developer for warehousing, but at the end of three or four years, a traffic and parking study must be submitted to the city to demonstrate that the parking relaxation has had no adverse consequences on the community.

The city of Bellevue is using this same concept of setting aside land for parking to permit parking reductions in outlying areas. The delayed parking provision has been part of Bellevue's Land Use Code since 1983. Only landscaping is allowed on the land held in reserve for parking. No structures of any kind are permitted.

C. Pricing

Free or subsidized parking encourages auto use over public transit and rideshare use. On a national scale, it is estimated that 75 percent of all cars driven to work are parked free in spaces provided by employers; free on-street parking raises that percentage to 93 percent.²⁷

Conditions in the Puget Sound region match very closely with the national data.²⁸ Research has shown that approximately 20 percent of those who now drive alone and receive free parking would form carpools or begin using public transit if they were required to pay for parking at their workplace.²⁹

Pricing approaches can take a number of forms:

- o General increases in parking rates.
- o Preferential parking rates for short-term parkers.
- o Preferential parking rates for carpools and vanpools.
- o Parking taxes.
- o Flexible transportation subsidies.
- o Other selected strategies such as elimination of monthly parking contracts.

One example of a large employer who substantially increased parking rates for employees is the federal government of Canada. Increasing parking rates for

federal employees in the City of Ottawa had several significant travel impacts, including a) a 23% reduction in the number of employees driving to work, b) an increase in average vehicle occupancy from 1.33 to 1.41, and (c) a 16% increase in transit ridership among Canadian federal employees.³¹

Preferential HOV pricing strategies can take the form of free or low-cost parking or can be differential rates based upon vehicle occupancy. An example of this type of differential parking rate that has been applied by some private firms is shown below:

	Percentage of Parking Price <u>Paid for by Employer</u>
Single Occupant	0%
Two-person carpool	50%
Three-person carpool	100%
Vanpool	100%

Preferential HOV pricing strategies have been successful in attracting carpools. The rate of use of the HOV spaces has generally exceeded 75% in Montgomery County, Maryland.³¹ In Seattle the use of HOV spaces is in excess of 95 percent for public spaces and about 35 percent for off-street spaces in private buildings.³²

The elimination of free employee parking is the first step toward discouraging single-occupant vehicle trips. Some ways to eliminate SOV parking subsidies are:

- o Increase employee pay commensurate with former parking subsidy.
- o Create alternative transportation fringe benefits for employees (e.g., subsidies for carpools, vanpools, subscription bus service and public transit bus passes).
- o Eliminate the parking subsidy for new employees.
- o Provide less employee parking and charge full prices for parking as new company facilities are built or leased, with a complementary increase in transportation fringe benefits.

One disadvantage of charging for parking is that it encourages employees to find free parking elsewhere, often on nearby residential streets. For parking charges to attract people to transit and ridesharing, there must be a ban on parking on residential streets or other nearby free facilities. However, the cost of enforcement may exceed the benefits derived.

A study done in Montgomery County, Maryland found that employees were willing to walk fairly long distances to avoid parking costs.³³ Employees in a building in White Flint, Maryland were seen to have walked as much as 1,500 ft. or more to avoid parking charges.

The relationship between parking demand and price is very inelastic (not responsive to change).³⁴ Only drastic parking price increases will create any sizeable reduction in parking traffic. Modest increases in parking charges over a period of time have little impact on mode choice.³⁵ If all-day parking charges are doubled, say from \$2.00 to \$4.00 all at once, it could alter parking habits of as many as 22 percent of the existing users.³⁶ These 22 percent would perhaps seek other, less convenient locations with cheaper rates, consider carpooling or transit, or seek sources of parking subsidy from the employer.

Flexible transportation subsidies are inducements offered by employers to encourage employees to commute to work by transit, carpool, vanpool, or buspool instead of driving alone.

One of the most successful employer-subsidized, flexible transportation programs is operated by Atlantic Richfield Company at its corporate headquarters in downtown Los Angeles.³⁷ ARCO subsidizes all transportation modes for its 2,196 employees. Employees are given the choice of commuting alone and paying half of the monthly parking fee for a space owned or leased by the company, or switching to another transportation mode, which the company subsidizes at the following rates:

TRANSPORTATION SUBSIDIES PROVIDED BY ARCO

Single driver	- 50 percent of parking price
Two-person carpool	- 75 percent of parking price
Three-person carpool	- 100 percent of parking price

As of January, 1985 a new federal law requires employers to add transportation subsidies exceeding \$15 per month to the employee's W-2 form for tax purposes. As a result of this change, ARCO provides a \$15 subsidy for modes other than automobile or ridesharing vehicles parking in the company's garages. (The law does not affect subsidy of parking spaces.)

Approximately 56 percent of ARCO's employees commute to work in high occupancy vehicles.³⁸ This compares with Los Angeles' overall goal of 55 percent for company ridesharing during periods of heavy smog.

D. Fringe Parking

The use of fringe parking lots along with express bus or shuttle service to employment sites is one parking management technique that can help keep cars out of congested downtown areas. Fringe lots are facilities located outside, but in close proximity to the CBD, which serve transit travelers destined to the CBD.

This type of program may be established by a local unit of government, by the transit agency, or by an employer. In order to make fringe parking attractive, remote parking lots should be located a sufficient distance from the work site (not less than one mile from the CBD or high concentration employment center) to make the mode change worthwhile in terms of total travel time for passengers. Unless parking supply is restricted and parking charges are high, fringe parking tends to work better close to the origin end of a trip (e.g., at park-and-ride lots) than at the destination end of a trip where an employee can easily drive the rest of the way.

The success of fringe parking lots depends heavily on the level of transit service linking the lot with the nearby activity center. The following service characteristics must normally be present for a lot to work well:

- o Adequate transit capacity must be available
- o Service should be provided at 5-10 minute headways during peak periods
- o Transit service to the lot should be available at a reasonable frequency during mid-day and early evening hours
- o Overall trip travel time and cost of using the facility should be roughly comparable to that for trips by auto to the activity center.

Two other factors which influence a fringe lot's use are security and ease of access.

E. Enforcement and Adjudication

Several cities have initiated aggressive policies regarding the enforcement of parking regulations in order to increase their general revenues and improve traffic circulation and the use of on-street parking. This has been accomplished in Boston and Washington, D.C. by increasing the level of ticketing and developing procedures to apprehend violators who have not paid outstanding citations. In Washington, D.C. enforcement responsibilities for parking violations were transferred from the police department to the traffic department. Through a combination of ticketing, towing, booting, and administrative adjudication, the program has been able to achieve the following results:

- o Creation of an estimated \$25 million in net revenue annually for the city.³⁹
- o An increase in the number of legal hours parked at metered spaces from 13 to 56 percent and a decrease in illegal hours from 84 to 31 percent.⁴⁰

- o An increase in turnover from 1.2 to 3.9 vehicles/hour.
- o An increase of 39 percent in meter revenues.

III. PARKING SUPPLY IN KING COUNTY

A. Overview

A study of suburban employment center parking demand conducted by staff members of Commuter Pool (now part of Metro) and PSCOG in 1983 found that minimum parking requirements in suburban King County are too high and should be reduced by at least 18 percent.⁴¹ The study concluded that, in the Seattle area, efforts to promote ridesharing may be more successful when employee densities exceed 4.5 employees per 1,000 gross square feet and parking supply dips below .80 space per employee.⁴²

Table 8 indicates the off-street parking requirements of each local jurisdiction within King County. These local requirements can be compared with parking requirements for office buildings, multi-family dwellings, and retail uses in selected jurisdictions elsewhere in the country. (See Tables 9, 10 and 11.) Most King County cities require 4.0 to 5.0 spaces per 1,000 gsf for office and commercial uses. This figure exceeds the 3.0 spaces per 1,000 gsf recommended by the Federal Highway Administration for office development as a reasonable base parking requirement outside CBDs or densely built-up areas.⁴³

B. Bellevue's Experience with Parking Management

An abundance of parking exists at most employment sites in suburban King County. For example, the city of Bellevue's parking supply rate for offices was 4.4 spaces/1000 sq. ft. in 1980. A total of 15,000 parking spaces was available for retail and office use, compared with a CBD employment level of 12,000.⁴⁴ Since 1981 the City has implemented the following measures to encourage HOV use:

- o Minimum parking requirements were lowered to 2.0 spaces per 1000 sq. ft.

- o Maximum parking requirements slightly lower than the present level of estimated demand were established. The maximum for office use was set at 3.0 spaces/1000 sq. ft., whereas city staff felt that the demand was about 3.3 spaces.
- o Developments are required to meet all parking demand on-site. (With allowable parking supplies well below demand, HOV use must be correspondingly high.)

The first building in the Bellevue CBD to be constructed under the terms of the new zoning code was 450 Bell Terrace. The building houses 1,200 Pacific Northwest Bell Telephone employees, with only 410 parking stalls provided in the parking garage. To encourage PNB employees to use transit or carpool, a \$60/month parking fee was imposed for garage spaces, along with discounted or free parking for carpools. With intensive assistance provided by Seattle/King County Commuter Pool (now part of Metro) and the City of Bellevue ridesharing staff, a 50 percent employee carpool participation rate has been achieved. An additional seven to eight percent use transit.

While the PNB example is a special case because many of the company's employees previously used transit to commute to the company's former site in downtown Seattle, the Bellevue city staff believe it is still indicative of the higher mode splits for HOVs which can be achieved when parking supply is limited.

As a condition of receiving a building permit, the city requires new commercial developments within the Bellevue CBD to demonstrate that parking demand does not exceed on-site supply of between two and three spaces/1,000. A minimum of 20 hours per month of the project building management time must be reserved for the purpose of coordinating and marketing transit and HOV alternatives. The requirement of accommodating all parking demand on-site is being addressed in different ways by each developer. Four major office projects constructed within the past three years are Plaza Center, Skyline Tower, One Bellevue Center and Rainier Plaza. Listed below are the parking charges and occupancy rates for each building:

TABLE 8
A SUMMARY OF PARKING REQUIREMENTS
IN KING COUNTY JURISDICTIONS

	Single-Family Residential	Multi-Family Residential	Office	Commercial	Manufacturing
Kent	2 per dwelling unit	2 per dwelling unit if 49 or less dwelling units. 1.8 for 50+ units	1 per 250 gsf	1 per 500 gsf for most retail. 4.5 per 1,000 for shopping centers of less than 400,000 gsf, 5 per 1,000 if more	1 per 1,000 gsf
Auburn (Has required more than minimum)	1 for 2 bdr 2 spaces for 3 bdr	1½ spaces for 1-2½ bdr 2 spaces for 2½ or more	1 per 250 gsf	1 per 350 gsf 1 per 250 for "nuisance" businesses	1 per 750 gsf
Renton (Has no parking requirement in CBD)	2 per dwelling unit	1½ per dwelling unit	5 per 1,000 gsf	5 per 1,000 gsf	1 per 1,000 gsf
Tukwila	2 per dwelling unit	2 per unit	2.5 per 1,000 gsf	2.5 per 1,000 gsf (3.5 is what most commercial is using)	1 per 1,000 gsf
Bellevue (Proposed)	<u>Non-CBD</u> 2 per dwelling unit	<u>Non-CBD</u> One bedrm = 1.2/unit Two bedrm = 1.6/unit Three or more bedrms = 1.8 unit <u>CBD</u> Core: Min=0/unit Max=2/unit Non-Core: Min=1/unit Max=2/unit	<u>CBD Core</u> Min=2 per 1,000 nsf Max=2.7 per 1,000 nsf <u>Non-Core</u> Min=2.5/1,000 nsf Max=3.0/1,000 nsf <u>Non-CBD</u> (Proposed) Min=4/1,000 nsf Max=5/1,000 nsf	<u>Retail</u> <u>CBD</u> 3.3 per 1,000 gsf 5 maximum <u>Non-CBD</u> 4-5/1,000 nsf, depending on size	1.5 per 1,000 nsf (other than high technology and light industry)
Redmond	2 per dwelling unit suburban res 2 for 3+ bdr for urban res	Studio-1.2 1 Bdr -1.5 2 Bdr -1.8 3 bdr -2	Community Business Zone 4.0-Min 5.0-Max Professional Office District & Commercial Office District 3.5-Min 4.5-Max		Business Park/ Industrial 2 to 1,000 gsf 3 to 1,000 max

	Single-Family Residential	Multi-Family Residential	Office	Commercial	Manufacturing
Bothell	3 per dwelling unit	2 per dwelling unit	4 per 1000 gsf	First 2000 gsf- 1/200 gsf Greater than 2000 gsf- 1/400 gsf	2/1000 gsf
Issaquah (No maximums)	2 per dwelling unit	2 per dwelling unit	4 per 1000 gsf	5 per 1000 gsf	1 per 1000 gsf
King County	2 per dwelling unit	1½ per dwelling unit	1 per 200 gsf	1 per 200 gsf	1 per 1000 gsf
Des Moines	2 per dwelling unit	2 per dwelling unit	1 per 200 gsf	1 per 200 gsf	
Normandy Park	No parking requirements.				
Kirkland	NA	NA	1 per 300 gsf	NA	NA
Mercer Island	1 per dwelling unit	2 per dwelling unit	1 per 300 gsf	Retail = 1 per 400 gsf	1 per 3 employees with a minimum of 6 spaces
Seattle	1 space per 4 rooms	1 space per 4 rooms	<u>Downtown</u> .67 spaces per 1000 gsf in areas with high transit access, .94 spaces per 1000 gsf in areas with moderate transit access for long-term parking + 0.1 space per 1000 gsf for short-term parking. Maximum of 1 space per 1000 gsf unless special approval given. Outside downtown minimum requirement is 1 space/1000 gsf. No maximum.	<u>Retail</u> .40 spaces per 1000 gsf in areas with high transit access, .70 spaces per 1000 gsf in areas with moderate transit access for long-term parking. Short-term requirement is .5 space per 1000 gsf.	.20 spaces per 1000 gsf

<u>JURISDICTION</u>	<u>PARKING REQUIREMENTS (Spaces/1,000 GSF)</u>
Eno Foundation	Min. - 0.8, Max. - 13.3, Mean - 3.33
Washington Metro Area	
Montgomery County	2.0
Gaithersburg	3.3
Rockville	3.33
Prince George's County	4.0 1st 2,000 GSF + 2.5 for additional GSF
District of Columbia	0 - 1.67, depending on Zone
Alexandria	2.5 - 3.0, depending on planning district
Arlington	3.33 1st 5 floors + 2.5 for additional units
Fairfax County	4.5/1,000 NSF ^{1/} + 1.0/company vehicle
Moderate to Large Cities	
Baltimore, MD	0.5 - 2.5 depending on Zone
New Orleans, LA	2.0 - 2.5
Oakland, CA	-
Phoenix, AZ	3.33
Richmond, VA	2.5
St. Paul, MN	5.0/1,000 SF "usable floor area"
Tampa, FL	1.0
Suburban Counties or Municipalities	
Bellevue, WA	Min. 2.0, Max. 3.0/1,000 Net SF
Cambridge, MA ^{2/}	1.0 - 1.67 min.; 1.5 - 3.33 max.
Evanston, IL	2.5/1,000 GSF over 2,000 GSF
Henrico Co., VA	3.33
Oak Park, IL	2.0
Tempe, AZ	5.0
Walnut Creek, CA	4.0/1,000 GLSF

^{1/} Net square feet.

^{2/} Maximums may be exceeded but with FAR penalty. This has been done on some occasions.

Source: JHK & Associates, Parking Policies Study for Montgomery County, Maryland, November 1982.

TABLE 9
Parking Requirements for Office
Buildings in Selected Jurisdictions

<u>JURISDICTION</u>	<u>PARKING REQUIREMENTS (Spaces/unit)</u>
Eno Foundation ^{1/}	Mean - 1.2, Min. - 0.5, Max. - 2.0
Washington Metro Area	
Montgomery County	1 BR - 1.0, 2 BR - 1.25, 3+ BR - 1.5
Gaithersburg	-
Rockville	1 BR - 1.0, 2 BR - 1.25, 3+ BR - 1.5
Prince George's County	1 BR - 1.33, 2 BR - 1.66, 3 BR - 1.99
District of Columbia	0.25 - 1.0/unit
Alexandria	1 BR - 1.0, 2+ BR - 1.5
Arlington	1.13 1st 200 units + 1.0 for additional units
Fairfax County	1.5/unit
Moderate to Large Cities	
Baltimore, MD	0.25 - 1.0/unit
New Orleans, LA	1.0/unit
Oakland, CA	1.0 - 1.5/unit
Phoenix, AZ	1 BR - 1.3; 2 BR - 1.5; 3+ BR - 2.0
Richmond, VA	1.5/unit
St. Paul, MN	1.5/unit
Tampa, FL	1.0/unit
Suburban Counties or Municipalities	
Bellevue, WA	Min. 1.0/unit, Max. 2.0/unit
Cambridge, MA	1.0/unit
Evanston, IL	1.0 for units 700 SF; 1.25 for units 700 SF
Henrico Co., VA	1.5/unit
Oak Park, IL	1.0/unit (max. 2.0/unit)
Tempe, AZ	1 BR - 1.5; 2-3 BR - 2.0
Walnut Creek, CA	1.25 - 1.67/unit

^{1/} Zoning, Parking and Traffic, Eno Foundation, 1972 - Compilation of over 300 zoning ordinances around the country.

Source: JHK & Associates, Parking Policies Study for Montgomery County, Maryland, November 1982.

TABLE 10
Parking Requirements for Multi-Family
Dwellings in Selected Jurisdictions

<u>JURISDICTION</u>	<u>PARKING REQUIREMENTS (Spaces/1,000 GLSF)</u>
Eno Foundation	Mean - 4.4, Min. - 1.0, Max. - 13.3
Washington Metro Area	
Montgomery County	10/1,000 SF patron area + 3.33 - 0.67/1,000 SF add 1 area ^{1/}
Gaithersburg	5.56 for floors at grade + 2.5 for other floors ^{2/}
Rockville	7.5 up to 10,000 GLSF + 5.0 for additional area
Prince George's County	By parking generation group: 6.67/1,000 GSF normal; 10.0 high; 2.0 low
District of Columbia	No req't 1st 1,000 GSF; 0 - 5/1,000 GSF additional area
Alexandria	3.03 - 5.22 for buildings over 20,000 GLSF
Arlington	5.0/1,000 GLSF
Fairfax County	5.0 for 1st 1,000 GLSF + 6 for each additional 1,000 GLSF
Moderate to Large Cities	
Baltimore, MD	1.66 - 3.33/1,000 GLSF
New Orleans, LA	1.66 - 5/1,000 GSF
Oakland, CA	2.5 - 5/1,000 GLSF
Phoenix, AZ	-
Richmond, VA	5.0/1,000 GLSF
St. Paul, MN	6.67/1,000 SF "usable floor area"
Tampa, FL	2.0/1,000 GSF
Suburban Counties or Municipalities	
Bellevue, WA	Min. 4.0/1,000 GSF, Max. 5.0/1,000 GSF
Cambridge, MA	1.11 - 2.0 min.; 1.67 - 4.0 max.
Evanston, IL	3.33/1,000 GSF over 2,000 GSF
Henrico Co., VA	5.0/1,000 GLSF
Oak Park, IL	2.0/1,000 GSF
Tempe, AZ	4.0/1,000 GSF
Walnut Creek, CA	3-4SF parking/1 GSF floor area

^{1/} Regional shopping centers in separate category with 5.41/1,000 GLSF

^{2/} For shopping centers over 600,000 GLSF, 5.0 for floors at grade plus 2.5 for other floors

Source: JHK & Associates, Parking Policies Study for Montgomery County, Maryland, November 1982.

TABLE 11
Parking Requirements for Retail Uses in
Selected Jurisdictions

	<u>Monthly Parking Rate for SOV's</u>	<u>Monthly Parking Rate for 3-Person Carpool</u>	<u>Reserved Parking for Carpools?</u>	<u>Occupancy Rate (as of 12/86)</u>
Plaza Center	\$37	\$27	No	88%
Skyline Tower	\$43	\$20	Yes	62%
One Bellevue Center	\$55 (covered) \$35 (surface)	No discount	No	84%
Rainier Plaza	45 (surface) \$65 (underground)	No Discount	No	40%

Although Skyline Tower offers both preferential parking spaces and a discount for carpoolers, the developer has not been able to realize significant ridesharing usage because of the low building occupancy rate.

If the City determines that the development is not meeting all of its parking demand on-site, a Transportation Management Plan designed to reduce single-occupant vehicle trips must be submitted. The building permit agreement sets a ceiling on the developer's cost to implement that plan.

**C. The City of Seattle's Experience with Preferential
Carpool Parking Requirements**

The city of Seattle requires each new downtown development to meet its parking demand on-site through a substantial commitment to ridesharing. In 1978 the city adopted specific policies authorizing city agencies to require measures to mitigate adverse parking impacts as part of the environmental review process. One of these mitigating measures was a requirement to provide preferential parking spaces for carpool or vanpool vehicles.

The city's downtown parking policies had two major objectives: to encourage alternatives to SOVs, and to control the supply of parking spaces downtown. Amendments to the zoning code removed the minimum parking requirement for certain areas of downtown and placed a ceiling on the amount of parking that could be provided by a project. These amendments, however, focused only on limiting the supply of parking and did not enact specific measures to

promote alternatives to SOVs. The assumption was made that limiting the supply of parking would automatically encourage ridesharing.⁴⁵

In 1981 the city established a method for estimating the parking demand of downtown buildings. The methodology started with an estimate of the number of employees, based on the projected square footage, and then allocated these employees to several modes of arrival. A large percentage was estimated to use transit, based on existing and projected levels of transit ridership. An estimate of 10% or less of the employees was assumed to ride bicycles or walk. The remaining employees were divided into two groups: those who drove alone to work and those who rode with others. Demand in terms of the number of parking spaces was then determined, with the specific number of SOVs isolated.

To accomplish the goal of increasing the number of employees ridesharing, the city developed a carpool parking set-aside requirement. The number of SOV spaces was divided by three (the minimum number of individuals necessary to qualify as a carpool on the freeway HOV lanes at the time) and the resulting number of spaces had to be set aside for the exclusive use of carpools. If such spaces were empty by 9:30 a.m., they could then revert to short-term parking. In no event, however, were the set-aside spaces to be leased as long-term parking for non-carpool vehicles.

To promote carpool use within the project, the developer was also required to undertake the following actions:

1. Establish a transportation coordinator within the building.
2. Conduct periodic promotional efforts to encourage employee use of transit and carpools.
3. Grant a designated Commuter Pool representative right of entry to the parking facilities to monitor results on a quarterly basis.

The city was to reevaluate the effectiveness of the ridesharing conditions 12 months after the building achieved 80 percent occupancy.

By mid-1981, several of the office buildings approved with ridesharing conditions were completed and occupied. The effectiveness of the ridesharing program was evaluated on the basis of the following criteria:

1. effectiveness in reducing the opportunity for long-term SOV parking
2. use of the carpool set-aside spaces
3. private sector acceptability, and
4. enforceability of ridesharing conditions

From 1979-1982, Seattle's program of requiring ridesharing conditions on building permits theoretically reduced long-term parking supply for SOVs by 42 percent. However, at no time did verified carpools and vanpools occupy more than 2 percent of the total number of parking spaces set aside for HOVs in the garage facilities. Five possible reasons for this lack of use were:⁴⁶

1. Employees who formerly drove alone and might have carpooled and parked at the site were now arriving at the building by transit, bicycle, walking, or were being dropped off.
2. Employees were parking at other, less costly locations nearby.
3. The original estimate of long-term parking demand may have been too high.
4. The carpool parking set-aside may not have been properly administered by the developers. It appeared that some developers were allowing tenants of a project to park SOVs in long-term spaces owned by the developer in another section of the CBD, while converting the carpool set-aside spaces at the new project to short-term parking.
5. Carpoolers working in buildings close to the city's public carpool parking area may have chosen to park there rather than at their building because the city's rate was \$10.00 per month, as opposed to the market rate of \$80.00.

Evaluation of the ridesharing program's acceptability to developers indicated that the program failed on this point. Developers resented restrictions on the use of their long-term parking supply and perceived the carpool parking set-aside as a threat to the marketability of their project. In addition, the ridesharing requirement was often applied at the end of the permit-approval process.

Within the past few years the city's ridesharing requirement for new CBD office buildings has changed somewhat, based on the lessons learned during the first few years of the program. The primary changes are:

1. The traffic mitigation requirements have been incorporated into the city's zoning code, rather than being handled as part of the environmental review process. This enabled developers to know the requirements in advance of the review of a development proposal.
2. The definition of "carpool" was changed from three persons to two persons.
3. The carpool parking set-aside has been replaced by a requirement which gives the developer the option of either setting aside at least 20 percent of the long-term parking spaces for use by carpools, or providing a minimum of a 30 percent discount on the parking rates for carpoolers.

As of December 1986, the city has agreements for carpool parking provision with about 18 buildings. There are about 1,900 off-street carpool parking spaces in buildings and 640 additional spaces in the public carpool parking area.

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Section 5:
Mechanisms For Incorporating
Public Transportation Concerns
Into The Development Review Process



I. FACTORS CONSIDERED BY METRO IN REVIEWING DEVELOPMENT PROPOSALS

Local jurisdiction planning staffs have an opportunity to incorporate public transportation concerns at a number of steps in the planning process:

- o Comprehensive plans
- o Transportation/community plans
- o Educational institutions' general development/facilities plans
- o Neighborhood/community plans
- o Zoning code
- o Development site plans

In reviewing environmental impact statement documents, Metro staff have the following general concerns regarding any type of development or action:

1. General traffic impacts - To what extent will traffic to and from the project contribute to congestion on roadways in the vicinity of the project?
2. Is the development of sufficient density by itself to warrant possible consideration of transit service or, if transit service is already present, a bus zone with shelter facilities?
3. Has the developer proposed measures to reduce single-occupant vehicle trips to and from the site? Is there an opportunity for employer-sponsored, Metro-assisted transportation management programs?
4. Is the developer proposing programs consistent with local and regional ridesharing goals?
5. Is the amount of parking being provided higher than the local jurisdiction's requirement?

In reviewing development site plans, Metro's concerns focus principally on internal circulation (in particular, whether a bus could use the road system) and accessibility to public transportation service if the development is of sufficient size that it may need service.

In areas of significant traffic congestion, such as downtown Seattle and downtown Bellevue, Metro reviews proposed development projects on the basis of the following points:

- o Access of coaches to bus zones
- o Access of pedestrians to zones unimpeded by street furniture, or vehicles coming or going to structured parking garages, lots, etc.
- o Spacing between zones
- o Opportunities for on-site rideshare programs or joint programs with adjacent sites.

Particular types of projects are reviewed for the following factors:

Office/Industrial/Manufacturing

- o If transit service is available, Metro evaluates how far employees would have to walk to the nearest bus stop. Is the developer providing a direct pedestrian connection, or does the employee have to walk through an expanse of parking to reach the bus stop? Is a passenger shelter being provided?
- o Is it practical to route service through the development? If so, attention needs to be paid to roadway system geometrics, pavement thickness, congestion and bus turnaround areas.
- o Is the proposed parking supply greater than that required by the local jurisdiction and likely to discourage use of high occupancy vehicles?
- o Has the project proponent developed a Transportation Management Plan (TMP) or an on-site rideshare program? The elements of a TMP may include, but are not limited to, the following:
 - a. Distribute information concerning alternative transportation modes to employers for their employees or directly to employees.

- b. Provide ridematching information.
- c. Provide a Commuter Information Center if there is a large employer or central location with protected pedestrian access.
- d. Encourage employers to participate in subsidized vanpool programs.
- e. Provide transit pass and carpool/vanpool subsidies to employees using these modes.
- f. Participate in the provision of shuttle or other paratransit services to and from key transit centers, park-and-ride lots, etc.
- g. Provide a preferential HOV parking program.
- h. Participate in a Transportation Management Association, if one exists.
- i. Sell transit passes on-site.
- j. Encourage employers to allow flexible working hours for as many employees as possible.

Shopping centers

- o Location, traffic, and access are the greatest concerns
- o Internal road network should accommodate the movement of coaches
- o Route facilities (e.g., passenger shelters) should be readily accessible to shoppers
- o Opportunities for leased park-and-pool space are reviewed
- o Opportunities for rideshare incentives for employees and subsidies for customers are evaluated.

Residential subdivisions

- o If transit service is available, accessibility to route facilities is of more concern. This is particularly true where some type of open space area buffers the roadway from the development.
- o The road system may need more attention if it is practical to route service through the development.
- o Metro encourages provision of rideshare materials in common spaces, if they exist (such as apartment building lobbies).

Road improvement projects

- o Road improvement projects are primarily a concern to Metro because of possible impacts on bus service. Metro needs to be provided with adequate notice of any forthcoming road work which has the potential to delay or otherwise disrupt normal service.
- o Geometrics and pavement thickness for new roadways should be designed to standards that accommodate transit vehicles.
- o Opportunities for HOV facilities are evaluated.

II. SPECIAL ZONING TOOLS AVAILABLE FOR ENCOURAGING PUBLIC TRANSPORTATION

A variety of specialized zoning techniques can be adopted by local jurisdictions to bring about public transportation-oriented land use development. These zoning techniques include the following:

- o Planned Unit Development¹

Rather than approving a large development on a lot-by-lot basis, the local government approves the entire project or large portions of the project at one time, in exchange for the developer dedicating various public amenities within the projects. The local governing body may be able to require dedication of land for transit facilities such as bus turnouts, benches, shelters, landing pads, and similar items.

- o Floating Zoning²

A floating zone is a zoning district adopted in a zoning ordinance but not fixed to any location in the community. Floating zoning is usually intended to locate one or more particular uses in an area devoted to other uses. It is often used to locate planned unit developments. By allowing planned unit developments, more transit orientation is likely to occur.

- o Bonus or Incentive Zoning³

Zoning incentives are provisions built into a zoning code that permit an applicant to acquire expanded development rights, such as higher densities, in exchange for providing some public benefit, including locating near existing transit service. Another possible form of this concept is to require less parking from developers near existing transit service.

- o **Mixed-Use Zoning**⁴

This concept allows dissimilar but compatible uses within the same area. Use of this concept can provide more efficient use of transit by generating trips at all times of the day.

- o **Special Districts**⁵

Some cities such as Portland, Oregon have set up a special commercial district in the downtown area. The main goal of the commercial district is to control types of land use and limit auto use by controlling the cost of parking. Another technique is to develop critical area overlays with special transportation system management requirements designed to reduce single-occupant vehicle traffic.

- o **Special Neighborhood Commercial Zones**⁶

This concept involves the establishment of small shopping centers within each neighborhood. This can result in less auto travel and a greater orientation toward public transit.

- o **Land Banking**⁷

Land banking refers to the practice of state or local governments acquiring land in advance of development to ensure the continuing availability of sites, control timing, location, type and scale of development; prevent urban sprawl; and reserve for the public those gains in land values resulting from governmental activity. Although a controversial practice, land banking can be useful in encouraging transit-supportive development, particularly as part of an overall corridor development strategy.

- o **Transit Zoning Districts**⁸

The establishment of a transit zoning district could be considered wherever a major fixed transit facility, such as a transit center, exists. The adoption of a

new zoning classification similar to other special district classifications would be required. This would allow consideration of higher density residential uses and also encourage "mixed use" development through rezoning and incentives near transit facilities. Site design review would be required for all new development proposed in the zone.

The general approach involves rezoning blocks immediately around the transit facility to allow higher-density residential development and prohibit automobile-oriented uses. The zoning code would be amended to require pedestrian improvements near transit facilities. Developers would be encouraged to develop land in a way that serves the public interest by allowing density bonuses and/or reducing parking requirements.

Transit compatible zoning has been used in the Portland, Oregon area, where a new light rail line opened in Fall, 1986. In 1982 the City of Gresham, a suburban terminus of the light rail line, created two special land use designations: a central urban core area and transit development districts. The central core area was formed to promote mixed use development (retail/residential/office) within the city's downtown area. Three transit development districts of 10-11 acres in size were established, each surrounding a light rail station. The primary uses allowed in these districts are high-density residential and business office development. Residential density within the transit development districts ranges from 24-45 dwelling units per acre. Up to 75 dwelling units per acre is permitted if the developer provides a direct pedestrian connection from the residential complex to the light rail station. The city has also upzoned several existing residential areas, attempting to allow increases in density while maintaining the character of the older residential neighborhoods. Gresham hopes to develop a special parking district, where developers would have a choice of providing their own parking or paying an "in-lieu-of" fee. The city would then use the latter to create municipal parking and promote shared parking opportunities. Multnomah County is using a similar approach to promote transit-compatible development around its new light rail stations.

- o **Transportation Systems Management Ordinance**

Adoption of a TSM ordinance would enable a local jurisdiction to impose traffic mitigation requirements on commercial, residential, and retail developers as a condition of development. By incorporating such requirements into the zoning code, as opposed to the EIS review process, local governments provide developers a better opportunity to include the cost of a TSM program in their project budget at the outset of their proposal.

REFERENCES

Section 5: Mechanisms for Incorporating Public Transportation Concerns into the Development Review Process

- 1 Op Cit., Guide for Including Public Transit in Land Use Planning, pp. 12-13.
- 2 Ibid., p. 12
- 3 Ibid., p. 12
- 4 Ibid., p. 13
- 5 Ibid., p. 13
- 6 Ibid., p. 13
- 7 Op Cit., Planning with Transit--Land Use and Transportation Planning Coordination, pp. 39-40
- 8 Ibid., pp. 40 and 42

APPENDIX

PHONE NUMBERS FOR METRO SERVICES

Ridematch - 625-4500

Transit pass subsidy - 684-1716

Custom bus - 684-1543

Environmental review - 684-1612

Memorandums of Agreement (City of Seattle) - 684-1607

Transportation Management Plans (Other than City of Seattle) - 684-1613

Carpool certification program - 684-1607

Transportation Systems Management (TSM) Ordinance - 684-1620

Downtown Seattle Transit Project - 684-1420

Transit Centers - 684-1636

Park-and-Ride/Pool lots - 684-1652

Vehicle specifications - 684-1629

General route information - 447-4800

METRO CONTACT PERSONS FOR KING COUNTY SUBAREAS

DISTRICT TEAMS

1 NORTH

Patelin Williams	684 1613
Market Development Planner	
Sam Graves	684 1756
CSR	
Aren Rosenzweig	684 1617
Facilities Planner	
George Pressley	684 1608
Service Planner	
David Thomson	684 1612
Market Development Planner	
Barbie Mueller	684 1549
Sales & Customer Service	
Jack Latteman	684 1647
Long Range Planner	

5 CBD

Kathy Snow	684 1607
Market Development Planner	
Cathy Cole	684 1560
CSR	
Chuck Gehrts	684 1404
Facilities Planner	
Jayma Gustilo	684 1595
Construction Information	
Julie Honeycutt	684 1413
Service Planner	
Paul Alexander	684 1599
Shelters	
Barbie Mueller	684 1549
Sales & Customer Services	
Bob Throckmorton	684 1557
CSR	
Vacant	-
Long Range Planner	
Renee Montegales	684 1641
Trolley Overhead	

4 SOUTHWEST

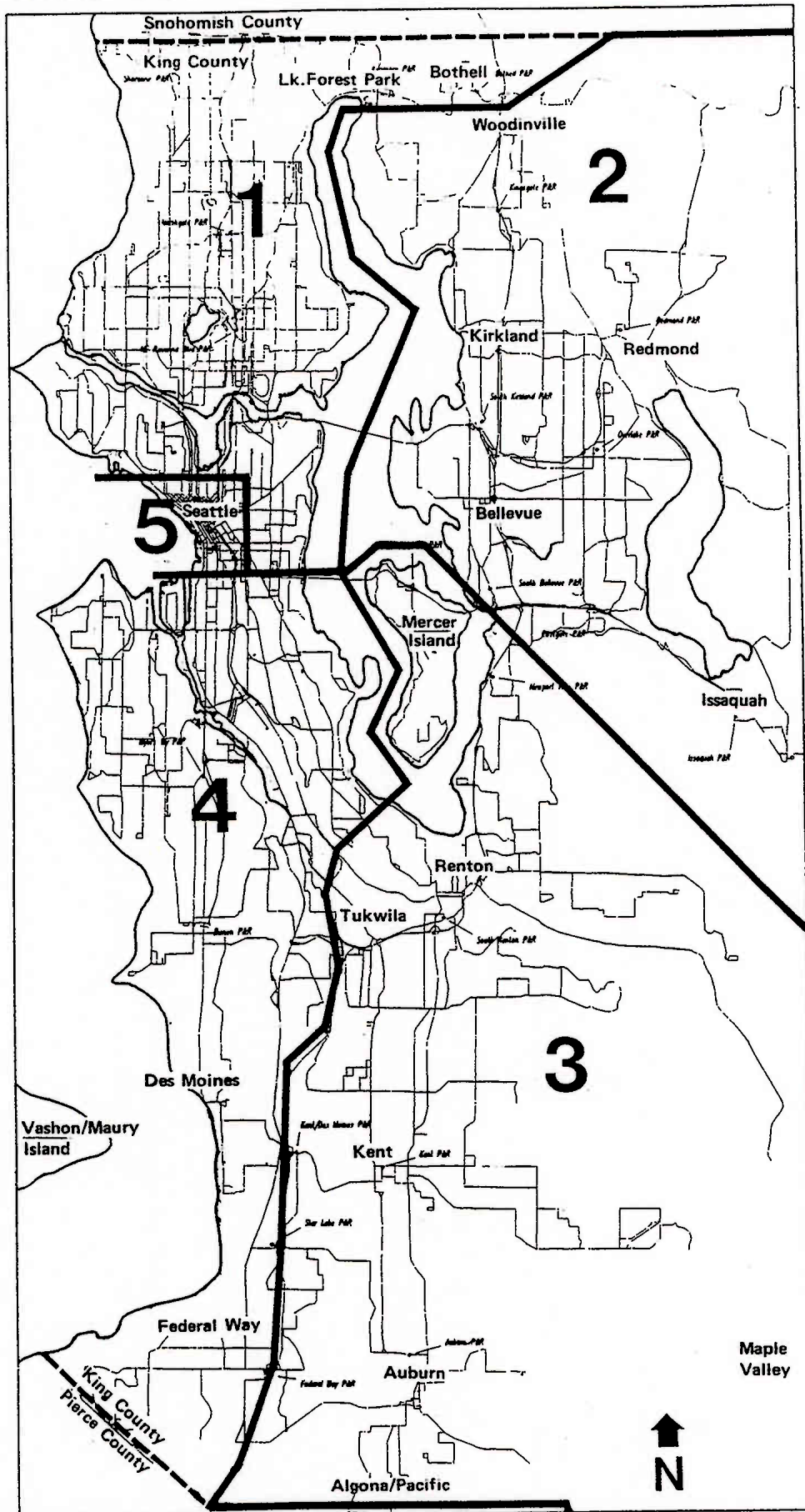
Bob Flor	684 1611
Market Development Planner	
James Johnson	684 1561
CSR	
Doug Johnson	684 1597
Facilities Planner	
David Charhon	684 1609
Service Planner	
Eliane Guillot	684 1643
Long Range Planner	
Barbie Mueller	684 1549
Sales & Customer Services	

2 EASTSIDE

David Stallings	684 1623
Market Development Planner	
Catelin Williams	684 1613
Market Development Planner	
Maggie Lubov	684 1558
CSR	
Frank Waynewood	684 1594
Facilities Planner	
Mike Bergman	684 1601
Service Planner	
Rob Fellows	684 1645
Long Range Planner	
Barbie Mueller	684 1649
Sales & Customer Services	

3 SOUTHEAST

Carol Thompson	684 1610
Market Development Planner	
James Johnson	684 1561
CSR	
Don Winston	684 1596
Facilities Planner	
Leonard Madsen	684 1604
Service Planner	
Barbie Mueller	684 1549
Sales & Customer Service	
Vacant	
Long Range Planner	



GLOSSARY

bonus zoning - a zoning tool which permits developers to be awarded a bonus, such as increased density, in exchange for providing desired amenities, such as additional open space or wider sidewalks.

cooperative financing - the concept that private development must bear a larger share of the cost of public infrastructure.

custom bus service - bus service open to the general public which is typically commuter-oriented, operating fixed routes and schedules tailored to the travel times and patterns of "subscribers."

demand responsive - refers to a transportation service that does not stay on a fixed route, but deviates to provide door-to-door service to customers who phone in advance.

destination parking - refers to parking management programs at the activity center end of a trip, such as employment sites.

delayed parking provision - a provision written into a zoning code that allows a developer to build less parking in exchange for reserving a portion of the site as landscaping, in case additional parking is needed in the future.

employee density - the number of employees per 1,000 square feet of work space.

flexible parking requirements - parking requirements that relax the amount of off-street parking called for in local zoning codes in return for developer support of public parking, mass transit, or ridesharing programs.

floating zoning - a zone that floats over the county until it is affixed to a particular parcel of land. In typical application, the local jurisdiction creates a zone outlining certain uses and when a property owner submits an application for development that can go in only that type of zone, the legislative body may designate such a zone on the official zoning map.

fringe parking - parking facilities located outside, but in close proximity to, the CBD.

headway - time interval between successive in-service vehicles traveling in the same direction, usually expressed as an average number of minutes.

HOVs - high occupancy vehicles; vehicles carrying three or more persons (two under specific circumstances).

land banking - large scale acquisition of land directly by governmental bodies.

level-of-service (LOS) - a qualitative measurement of the level of traffic congestion on a roadway, based on vehicle operating speed, travel time, traffic interruptions, safety and driving comfort. Measured on a scale from "A" to "F" with A indicating the best service and F indicating the worst service.

mandatory ceilings - refers to an upper limit placed by a local jurisdiction on the number of parking spaces that can be provided by a developer.

mixed use development - a development which contains a variety of land use types in one project.

mixed use zoning - zoning which permits a combination of usually separated uses within a single development.

mode split - the percentage of overall trips made by different means of transportation.

net residential density - density of the residential acreage; excludes land that is vacant or zoned for other purposes.

origin parking program - refers to parking programs developed at the origin, or home, end of a trip, such as park-and-ride/pool facilities.

parking management - actions taken to alter the supply, operations, and/or parking demand of a jurisdiction's parking system and to further the attainment of local transportation, economic, environmental, and other objectives.

passenger loading zones - locations designated for picking up transit, carpool, or vanpool passengers.

planned unit development - a development characterized by a unified site design for a number of housing units, clustering buildings, and providing common open space, density increases and a mix of building types and land uses. It permits the planning of a project and the calculation of densities over the entire development, rather than on an individual lot-by-lot basis.

productivity - a measure of the ridership of a transit route, as a ratio of the route's capacity.

residential parking permit program - a form of on-street parking supply restriction designed to control the excess parking demand created by persons who live outside a neighborhood but park their vehicles there in order to shop, work, or attend school nearby.

revenue hour - an aggregation of time during which service is available to carry passengers; it excludes layover, deadhead, or other "non-revenue" service time.

secondary urban area - areas just outside the Seattle Central Business District which have an expected high transit demand.

special districts - districts established to accommodate a narrow or special set of uses or purposes, such as open-space districts, transit impact districts, or research park districts.

SOVs - single-occupant vehicles.

transit zoning districts - a zoning approach which involves rezoning blocks immediately around a transit facility to allow higher-density residential development.

Transportation Management Association - an organization that seeks collaboratively to solve parking, transportation and access problems of growing urban centers through non-capital intensive programs.

Transportation Systems Management (TSM) Ordinance - an ordinance passed by a local jurisdiction which requires developers to provide incentives to building occupants to use alternatives to the private auto.

trip attractions - destinations which attract a large number of trips.

trip productions - land use types which produce a large number of trips at the origin end, for example, multi-family housing.

volume/capacity ratio - a measure of traffic congestion on a particular roadway. If the volume/capacity ratio is greater than 1, then the traffic volumes exceed the design capacity of the roadway.

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